Listing of Claims:

1.(previously presented) A method for color calibrating a transmissive display system comprising the steps of:

applying signal values that select a target color in a look-up table in said display system to establish color on a screen of said display system;

noting chromaticity of color displayed on said screen;

determining an evaluation parameter for said color utilizing said chromaticity;

determining a target evaluation parameter utilizing chromaticity of said target color;

comparing said color evaluation parameter to said target color evaluation parameter to establish a parameter difference value:

comparing said parameter difference value to said specified tolerance range; and

creating a tristimulus table having tristimulus values for said primary colors for each signal value over an entire signal value range;

determining backlight tristimulus values;

subtracting backlight tristimulus values from corresponding tristimulus values in said tristimulus table to provide a corrected table;

subtracting said backlight tristimulus values from corresponding target color tristimulus values to provide corrected target color tristimulus values; utilizing said corrected table and said corrected target color tristimulus values to obtain estimated primary color luminance values corresponding to said target color, thereby providing modified signals;

establishing an evaluation parameter for color displayed in response to said modified signal values; and

comparing said evaluation parameter for said response color to said target color evaluation parameter to determine if said response color is within said specified tolerance range of said target color, thereby providing a parameter difference within said tolerance range.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (previously presented) The method of claim 1 wherein said utilizing step includes the steps of:

forming a matrix of primary color tristimulus values obtained by accessing said corrected table at maximum signal values;

calculating an inverse matrix of said matrix;

multiplying a vector formed by said corrected target color tristimulus values by said inverse matrix to obtain a vector of primary color luminance values, each component of said vector representative of a primary color luminance value;

entering said corrected table with each component of said vector to obtain a new signal value for each primary color luminance value;

utilizing each new signal value to extract tristimulus values for a corresponding primary color from said corrected table, thereby providing extracted primary color tristimulus values;

adding corresponding tristimulus values of said extracted primary color tristimulus values and said backlight tristimulus values to obtain estimated tristimulus values;

adding said backlight tristimulus values to corresponding corrected target color tristimulus values to obtain target color tristimulus values;

using said estimated tristimulus values to establish an estimated evaluation parameter;

comparing said estimated evaluation parameter to said target evaluation parameter; and

performing an iteration, utilizing a matrix formed with said estimated tristimulus values and said primary color luminace values, if said estimated evaluation parameter is not within said tolerance.

6. (Original) The method of claim 5 wherein said iteration performing step includes the steps of:

creating a new matrix utilizing said extracted primary color tristimulus values;

calculating an inverse matrix of said new matrix, thereby providing a new inverse matrix;

multiplying said vector formed by said corrected target color tristimulus values by said new inverse matrix to obtain a new vector of primary color luminance values, each component of said new vector representative of a primary color;

entering said corrected table with each component of said new vector to obtain a further new signal value for each primary color;

utilizing each further new signal value to extract new tristimulus values for a corresponding primary color from said corrected table, thereby providing new extracted primary color tristimulus values;

adding corresponding tristimulus values of said new extracted primary color tristimulus values and said backlight tristimulus values to obtain new estimated tristimulus values;

using said new estimated tristimulus values to establish an estimated evaluation parameter;

comparing said estimated evaluation parameter to said target evaluation parameter; and

performing another iteration, utilizing a matrix formed with said estimated tristimulus values and said primary color luminance values, if said estimated evaluation parameter is not within said tolerance.

7. (previously presented)   The method of claim 6 wherein said another iteration performing step includes the steps of:

creating a new matrix utilizing said extracted primary color tristimulus values;

calculating an inverse matrix of said new matrix, thereby providing a new inverse matrix;

multiplying said vector formed by said corrected target color tristimulus values by said new inverse matrix to obtain a new vector of primary color luminance values, each component of said new vector representative of a primary color;

entering said corrected table with each component of said new vector to obtain a further new signal value for each primary color;

utilizing each further new signal value to extract new tristimulus values for a corresponding primary color from said corrected table, thereby providing new extracted primary color tristimulus values;

adding corresponding tristimulus values of said new extracted primary color tristimulus values and said backlight tristimulus values to obtain new estimated tristimulus values;

using said new estimated tristimulus values to establish an estimated evaluation parameter;

comparing said estimated evaluation parameter to said target evaluation parameter; and

modifying said display system to access said new signal value to display said target color if said estimated parameter is within said tolerance range.

8. (Original) The method of claim 7 further including the steps of:

applying signal values for a color within said specified tolerance range in a first ambient light condition;

lowering said backlight luminance, in a second ambient light condition, from a first backlight luminance until a desired contrast level is achieved, thereby determining a second backlight luminance; and

establishing said second backlight luminance for operation in said second ambient light condition.

9.(previously presented) The method of claim 1 wherein said utilizing step includes the steps of:

forming a matrix of primary color tristimulus values obtained by accessing said corrected table at maximum signal values;

calculating an inverse matrix of said matrix;

multiplying a vector formed by said corrected target color tristimulus values by said inverse matrix to obtain a vector of primary color luminance values, each component of said vector representative of a primary color luminance value;

entering said corrected table with a component of said vector to obtain a new signal value for each primary color luminance value;

utilizing each new signal value to extract tristimulus values for a corresponding primary color from said corrected table;

adding corresponding tristimulus values of said primary color tristimulus values and said backlight tristimulus values to obtain estimated tristimulus values;

adding said backlight tristimulus values to corresponding corrected target color tristimulus values to obtain target color tristimulus values;

using said estimated tristimulus values to establish an estimated evaluation parameter;

comparing said estimated evaluation parameter to said target evaluation parameter; and

modifying said display system to access said new DAC value to display said target color if said estimated parameter is within said tolerance range.

10.(Original) The method of claim 9 further including the steps of:

applying signal values for a color within said specified tolerance range;

lowering backlight level from full brightness until a desired contrast level is achieved, thereby determining a second ambient light level backlight luminance; and

establishing said second ambient light level backlight luminance for operation in said second ambient light level.

11.(previously presented) The method of claim 1 further comprising the steps of:

checking color displayed on said screen in a second ambient light condition, to determine a second ambient light color;

comparing said second ambient light color to said target color to determine if said second ambient light color is within said specified tolerance range;

adjusting backlight level when said second ambient light color is not within said tolerance range to provide a color within said tolerance range.

12.(Original) The method of claim 9 further including the steps of:

applying signal values for a color within said specified tolerance range in said first ambient light;

lowering backlight luminance from a first luminance level until a second luminance level at which a desired color luminance is achieved in said second ambient light, thereby determining a second ambient light backlight luminance; and

establishing said second ambient light backlight luminance for operation in said second ambient light.

13.previously presented) The method claim 1 further including the steps of:

lowering backlight luminance from a first luminance level to a second luminance level at which a desired color luminance is achieved;

establishing a ration of said first and second luminance levels; and

utilizing said ratio to modify said tristimulus table.

14.(canceled)

15.(canceled)

16.(canceled)

17. (canceled)

18. (canceled)